

ABSTRACT

Vapor sensing systems and methods are disclosed. An appliance
5 such as a gas water heater, clothes dryer, and the like can be associated
with a controller for controlling the appliance. A vapor sensor is also
associated with the appliance, such that the vapor sensor comprises an
active sensor and an error sensor, wherein the active sensor generates an
active signal and the error sensor generates an error signal. An amplifier is
10 also associated with the vapor sensor, such that the amplifier subtracts the
error signal from the active signal to generate a compensated signal
indicative of the presence of an ignitable vapor within a vicinity of the
appliance and thereby instruct the controller to shut down the appliance.